

Abstract of the Disclosure

What is described here is a device for receiving optical signals, comprising a light-guiding object into which the optical signal to be received may be coupled. The light-guiding object contains a material having an electron array adapted to be inverted by energetic excitation, which, in response to stimulated emission, emits light at an emission wavelength which corresponds to the wavelength of the optical signals to be received. An excitation unit is provided for inversion of the material. Moreover, a detector means is optically coupled to the light-guiding object for detecting the light which can be produced by the emission processes stimulated by the optical signals coupled into the light-guiding object.

The invention is characterised by the aspect that the light-guiding object consists of a material, preferably a synthetic material, which, in response to light radiation at an angle of $0^\circ < \alpha \leq 90^\circ$ relative to the irradiation surface within the material, produces light by elastic dispersion – which means that the wavelength of the diffused light corresponds to the wavelength of the irradiated light – which has a radiation component in the direction of a main propagation sense of the light-guiding object.